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ATT

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-----------------------|---------------------|------------------|
| 10/615,603  | 07/08/2003  | Hans-Jurgen Schreiner | DNAG-256(10308128)  | 8295             |
| 24972   | 7590        | 05/09/2005            | EXAMINER            |                  |
| FULBRIGHT & JAWORSKI, LLP<br>666 FIFTH AVE<br>NEW YORK, NY 10103-3198 |             |                       |                     | NGUYEN, TAI V    |
| ART UNIT  |             | PAPER NUMBER          |                     |                  |
|   |             | 3729                  |                     |                  |

DATE MAILED: 05/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|------------------------------|------------------------|---------------------|
|                              | 10/615,603             | SCHREINER ET AL.    |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Tai Van Nguyen         | 3729                |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1)  Responsive to communication(s) filed on 27 January 2004.  
2a)  This action is **FINAL**.                    2b)  This action is non-final.  
3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4)  Claim(s) 1-12 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1,2 and 6-12 is/are rejected.

7)  Claim(s) 3 and 4 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/14/03.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date.       .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other:       .

**DETAILED ACTION**

***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
2. The following title is suggested: A METHOD FOR THE MANUFACTURE OF A PIEZOELECTRIC MULTILAYER ACTOR.

Applicant is reminded of the proper content of an abstract of the disclosure.

3. A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

- Where applicable, the abstract should include the following:
- (1) if a machine or apparatus, its organization and operation;
  - (2) if an article, its method of making;
  - (3) if a chemical compound, its identity and use;
  - (4) if a mixture, its ingredients;
  - (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

4. The abstract of the disclosure is objected to because the abstract is not drawn to the claimed invention. i. e. method Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (US 4,523,121) in view of Chida et al (US 5,034,649).

As applied to claims 1, 6, 7 and 11, Takahashi et al disclose a method for the manufacture of a piezoelectrical multiplayer actor comprising applying thin coats of a piezoelectric ceramic material as green leaves (column 15, lines 15-17), to at least one internal electrode (32, Fig. 3) such that the green leaves are stacked one on the other in a block (Fig. 3), and the internal electrodes are brought alternately to opposite faces of the actor where they are connected together by an external electrode (33, 34) green body; sintering the actor green body (column 14, lines 25-37); applying ground metallization for external electrode; applying an area of the actor to be insulated by a thick-layer method a paste comprising an inorganic, low-sintering material or material mixture and an organic binder system (column 5, lines 40-65), and subjecting the body coated with the pasted to a firing process wherein the layer thickness after sintering 1 and 40um (column 10, lines 46-52).

As applied to claim 5, Takahashi et al disclose the low sintering material (column 14, line 68).

However, Takahashi et al does not teach abrasively shaping the sintered green body. Chida et al teach abrasively shaping the sintered green body (column 5, lines 57-65). It would have been obvious to one ordinary skill in the art at this time the invention was made to have modified the Takahashi et al method by including the step of abrasively shaping the green body, as taught by Chida et al, to positively control the generated force (column 1, lines 9-11) by shaping the overall size of the green body.

7. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al.

Regarding claims 8-10, it would have been an obvious matter of engineering design choice to have silk-screen printing, rubber-stamping and plasma spraying, since Applicants have not disclosed that the claim specific silk-screen printing, rubber-stamping and plasma spraying, solve any stated problem or for any particular purpose and it appear that the invention would perform well with the thick layer method of Takahashi et al.

#### ***Allowable Subject Matter***

8. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai Van Nguyen whose telephone number is 571-272-4567. The examiner can normally be reached on M-F (7:30 A.M - 4:30 P.M).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TN.  
May 4, 2005



A. DEXTER TUGBANG  
PRIMARY EXAMINER